Integrating Increasingly Complex Simulation into a Junior II Level course in a BSN Program to Provide students with an active learning strategy to reinforce learning

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Disclosures and Objectives

- The Authors

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- There are no conflict of interests to report.
- At the time of this project I was attending Benedictine University and completing my MSN and completed my Capstone Project at Saint Xavier University
- I currently work as an Adjunct Faculty for Saint Xavier University School of Nursing.
- I was awarded a stipend from Saint Xavier University Adjunct Faculty Board and I am receiving sponsorship from Alpha Omicron Chapter, STTI .

- The Learners will be able to recognize the need for alternative educational pedagogies and identify three ways simulation can enhance learning by the end of the session.
- The Learners will be able to identify simulation scenarios that are designed with the level of the student in mind.

Purpose and Scope

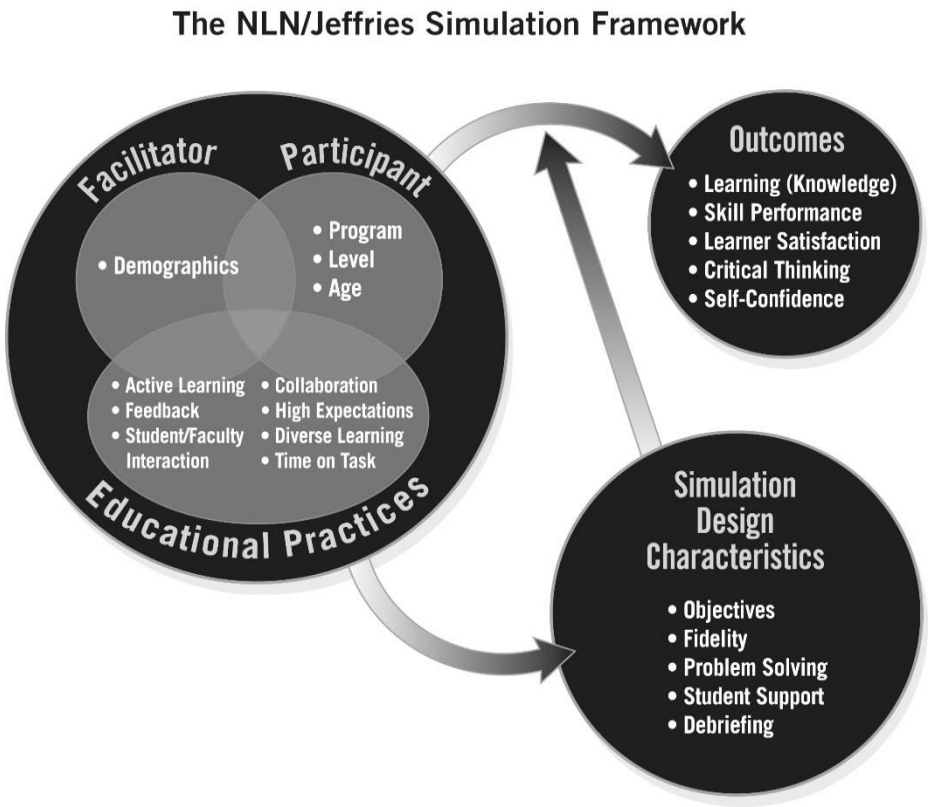
- Integration of High Fidelity Simulation (HFS) into a Junior II Med-Surg Course
- Improve students' satisfaction in learning and confidence
- Hands-on practice to improve clinical skills
- Promote application of theoretical knowledge in a life-like situation
- Simulation scenarios developed for the Junior II level nursing students
- Sustainability

Relevance of the Project

- Impact the Junior II level Med-Surg Course
- Alternative to traditional lecture and onsite clinical
- Students have consistent clinical experiences
- Opportunity to practice in a safe environment
- Builds confidence in skill performance and application of knowledge to the clinical setting
- Adds to the evidence: NCSBN

Theory, Model, and Conceptual Framework

- **Five Major Constructs**



- Facilitator
- Participant
- Educational Practices
- Outcomes
- Simulation Design Characteristics

The NLN/Jeffries Simulation Framework has been used with permission from the NLN (Jeffries, 2012).

Project Development

- Preparation for the project began in Spring of 2014.
  - Simulation Scenarios were developed
  - Patient charts were made
  - Simulation scenarios were piloted
  - High Fidelity SimMan 3G manikins were utilized
- Scenarios were developed with increasing complexity
  - Requiring assessment of an initial problem
  - Implementation of interventions
  - Evaluation/re-assessment
  - Each scenario became more complex

Project Implementation

- The Scenarios Concepts Included were:
  - #1 Perfusion and Oxygenation
  - #2 Metabolism and Acid/Base Balance
  - #3 Fluid and Electrolyte Balance
- Project took place in fall of 2014 during a traditional 16 week semester
  - The participants consisted of 12 Accelerated and 71 Traditional
  - Three Scenarios were integrated into the course for the accelerated students
  - Two simulations were integrated into the course for the traditional

Implementation….

- Instructor Guides for Student Progression through the simulations were developed
  - Time on task
  - Correct assessments
  - Appropriate skills performed
- Debriefing
  - Clinical Faculty Involvement
  - Tool from the NLN
  - Allowed students a forum to discuss thoughts and feelings
  - Survey

Evaluation Methods

Facilitator Observation

- Instructor Guide to student progression through the simulation

ATI skills checklists

- Observing for proper procedure

Guided debriefing

- Open Ended Debriefing Template from the NLN

Surveys

- Student satisfaction and Self Confidence in Learning
- Educational Practices Questionnaire (Student Edition)

Results

Scenario #1 Accelerated

Question	Agree	Strongly Agree	**Total**
1	0%	91.00%	91.00%
2	20%	70.00%	90.00%
3	9%	73.00%	82.00%
4	9%	73.00%	82.00%
5	27%	64.00%	91.00%
6	64%	9.00%	73.00%
7	9%	73.00%	82.00%
8	36%	18.00%	54.00%
9	64%	27.00%	91.00%
10	10%	70.00%	80.00%
11	18%	64.00%	82.00%
12	36%	45.00%	81.00%
13	18%	45.00%	63.00%

- Total students who completed survey n=11
- Data demonstrates that simulation increases self confidence **90%**
- Data indicates that simulation increases satisfaction in learning **82%**

Results

Scenario #2 Accelerated

Question	Agree	Strongly Agree	Neutral	Total
1	30.00%	60.00%	10.00%	90.00%
2	30.00%	70.00%	0.00%	100.00%
3	10.00%	80.00%	10.00%	90.00%
4	30.00%	70.00%	0.00%	100.00%
5	10.00%	80.00%	10.00%	90.00%
6	40.00%	50.00%	10.00%	90.00%
7	20.00%	60.00%	20.00%	80.00%
8	20.00%	60.00%	20.00%	80.00%
9	20.00%	80.00%	0.00%	100.00%
10	30.00%	60.00%	0.00%	90.00%
11	30.00%	60.00%	0.00%	90.00%
12	20.00%	80.00%	0.00%	100.00%
13	20.00%	50.00%	30.00%	70.00%

- Total students who completed survey n=10
- Data demonstrates that simulation increases self confidence **100%**
- Data indicates that simulation increases satisfaction in learning **80%**

Results

Traditional BSN Students

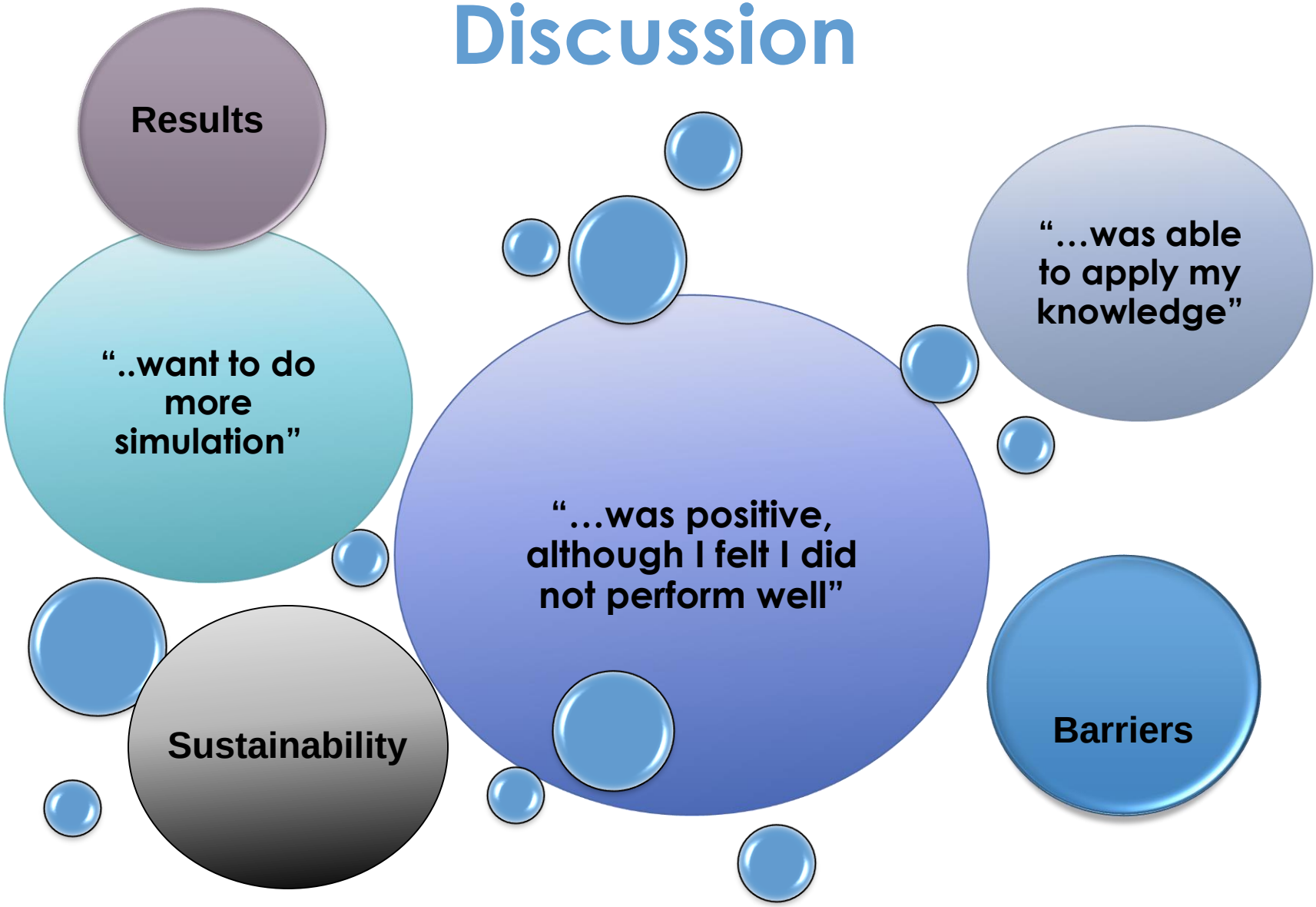
Question	Strongly Agree	Agree	**Total**
1	63.6%	30.3%	93.9%
2	60.6%	33.3%	93.9%
3	58.0%	32.0%	90.0%
4	59.1%	33.3%	92.4%
5	56.0%	29.0%	85.0%
6	24.0%	48.0%	72.0%
7	59.0%	36.0%	95.0%
8	45.0%	48.0%	93.0%
9	59.0%	29.0%	88.0%
10	71.0%	26.0%	97.0%
11	66.0%	28.0%	94.0%
12	50.0%	42.0%	92.0%
13	36.0%	27.0%	63.0%

- Total students who completed survey n=66
- Data demonstrates that simulation increases self confidence **93.9%**
- Data indicates that simulation increases satisfaction in learning **95.0%**

Results

- **#2** The simulation provided me with a variety of learning materials and activities to promote my learning the medical surgical curriculum.
  - **93.9%**
- **#7** I am confident that this simulation covered critical content necessary for the mastery of medical surgical curriculum
  - **95%**
- **#13** It is the instructor's responsibility to tell me what I need to learn of the simulation activity content during class time.
  - **63%**

Discussion


Results
"..want to do more simulation"
"…was able to apply my knowledge"
"…was positive, although I felt I did not perform well"
Sustainability
Barriers

Conclusion

Simulation has been used for many years in other fields

There is a growing body of evidence supporting the use of simulation.

There is a shortage of Nursing staff and Nurse Educators

There are many changes in the healthcare system

The availability of Clinical sites is becoming scarce

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Thank You